

ery, with 60,000 barrels of oil in the works, were valued at \$80,000; and the damage to the Donnell's works is estimated at \$50,000.

Russell, Kansas, 27th: During thunder-storm a mule and rider were killed about nine miles south of station.

Bryant, Indiana, 18th: Two persons were killed by lightning, and another was seriously injured.

Pottsville, Pennsylvania, 8th: The principal of the high school, at this place, and three boys were severely stunned by lightning while crossing Lawson's Hill.

#### ELECTRICAL PHENOMENA.

On the summit of Mount Washington, on the 14th, at 8:45 p. m., the anemometer cups were illuminated with electric light. On the 19th, at 10:30 p. m., pointed objects were tipped with electric light.

Pike's Peak, 7th, during a heavy snow storm at 8:30 p. m., the anemometer cups revolved in a circle of light, and other objects were illuminated. The hair and clothing emitted sparks, and a peculiar aching sensation was felt in the fingers.

San Francisco, 15th, telegraph wires charged with atmospheric electricity.

#### OPTICAL PHENOMENA.

##### SOLAR HALOS.

Solar halos have been observed in the various districts on the following dates:

*New England:* 2d, 10th, 23d, 25th, 27th, 28th.

*Middle Atlantic states:* 1st, 9th, 10th, 17th, 19th, 24th, 27th.

*South Atlantic states:* 6th, 9th, 17th, 18th, 28th, 29th, 30th.

*East Gulf states:* 3d, 5th, 6th, 14th, 15th, 16th.

*Ohio valley and Tennessee:* 5th, 6th, 7th, 10th, 13th, 15th, 16th, 17th, 25th, 26th.

*Lower lake region:* 2d, 7th, 10th, 11th, 16th to 19th, 23d, 26th, 28th.

*Upper lake region:* 6th, 7th, 10th, 15th, 16th, 17th.

*Upper Mississippi valley:* 4th to 7th, 15th, 16th, 30th.

*Missouri valley:* 1st, 4th, 5th, 17th, 26th, 27th, 28th, 30th.

Solar halos were also reported from the following stations not included in the districts named above:

Punta Rassa, Florida, 6th, 18th.

Moorhead, Minnesota, 27th.

Tobacco Garden, Dakota, 24th.

Yates Centre, Kansas, 4th, 5th, 15th.

Clay Centre, Kansas, 26th.

Creswell, Kansas, 18th.

Salt Lake City, Utah, 4th.

Santa Fé, New Mexico, 2d, 11th, 24th, 29th.

Colfax, Washington territory, 29th.

Sacramento, California, 11th.

San Francisco, California, 1st, 2d.

##### LUNAR HALOS.

Lunar halos have been observed in the various districts on the following dates:

*New England:* 2d, 4th, 19th, 22d to 26th, 28th.

*Middle Atlantic states:* 2d, 4th, 22d, 23d, 26th, 27th.

*South Atlantic states:* 21st, 24th, 29th, 30th.

*East Gulf states:* 26th, 27th, 28th, 29th.

*West Gulf states:* 19th, 24th, 26th to 29th.

*Ohio valley and Tennessee:* 6th, 7th, 24th, 25th, 26th.

*Lower lake region:* 2d, 19th, 22d, 25th to 29th.

*Upper lake region:* 26th, 27th.

*Extreme northwest:* 24th to 27th, 29th.

*Upper Mississippi valley:* 21st, 22d, 24th to 27th, 29th, 30th.

*Missouri valley:* 24th, 25th, 26th, 28th, 30th.

*Northern slope:* 14th, 19th, 22d, 25th, 26th, 29th.

*Northern plateau:* 23d to 27th.

Lunar halos were also reported from the following stations not included in the districts named above:

Punta Rassa, Florida, 30th.

Havana, Cuba, 26th, 30th.

Uvalde, Texas, 28th.

Santa Fé, New Mexico, 24th 28th.

West Las Animas, Colorado, 29th.

Salt Lake City, Utah, 24th.

Los Angeles, California 27th.

#### MIRAGE.

Northport, Michigan, 20th: From 11:00 a. m. to 3:00 p. m., the opposite shore (twelve miles distant) appeared distinctly visible. Objects and localities were discernable and recognized, which could not otherwise have been seen.

Indianola, Texas, 1st to 4th, 23d, 25th, 26th.

Alexandria, Dakota, 21st, 23d.

Genoa, Nebraska, 1st.

#### MISCELLANEOUS PHENOMENA.

##### SUNSETS.

The characteristics of the sky, as indicative of fair or foul weather for the succeeding twenty-four hours, have been observed at all Signal Service stations. Reports from one hundred and eighty-five stations show 5,459 observations to have been made, of which fifteen were reported doubtful; of the remainder, 5,444, there were 4,800, or 88.2 per cent., followed by the expected weather.

##### SUN SPOTS.

The following record of observations has been forwarded by Mr. D. P. Todd, Director of the Lawrence Observatory, Amherst, Massachusetts:

| DATE—<br>Sept., 1882. | No. of new |       | Disappeared<br>by solar<br>rotation. |       | Reappeared<br>by solar<br>rotation. |       | Total No.<br>visible. |       | REMARKS.               |
|-----------------------|------------|-------|--------------------------------------|-------|-------------------------------------|-------|-----------------------|-------|------------------------|
|                       |            |       |                                      |       |                                     |       |                       |       |                        |
|                       | Gr'ps      | Spots | Gr'ps                                | Spots | Gr'ps                               | Spots | Gr'ps                 | Spots |                        |
| 2, 2 p. m.            | 1          | 15†   | 0                                    | 0     | 0                                   | 0     | 5                     | 26†   |                        |
| 3, 3 p. m.            | 0          | 10†   | 0                                    | 0     | 0                                   | 0     | 5                     | 35†   |                        |
| 4, 1 p. m.            | 0          | 10†   | 1                                    | 5     | 0                                   | 0     | 4                     | 45†   |                        |
| 5, 11 a. m.           | 0          | 0     | 0                                    | 0     | 0                                   | 0     | 4                     | 45†   |                        |
| 7, 10 a. m.           | 0          | 0     | 1                                    | 10†   | 0                                   | 0     | 3                     | 35†   |                        |
| 8, 10 a. m.           | 0          | 0     | 1                                    | 15†   | 0                                   | 0     | 2                     | 20†   |                        |
| 9, 9 a. m.            | 1          | 2     | 0                                    | 0     | 1                                   | 2     | 3                     | 20†   |                        |
| 10, 3 p. m.           | 0          | 0     | 0                                    | 0     | 0                                   | 0     | 3                     | 20†   |                        |
| 12, 3 p. m.           | 1          | 1     | 0                                    | 10†   | 1                                   | 1     | 4                     | 12†   |                        |
| 14, 8 a. m.           | 0          | 13†   | 0                                    | 5     | 1                                   | 13†   | 4                     | 20†   | Two spots quite large. |
| 18, 3 p. m.           | 1          | 20†   | 0                                    | 0     | 0                                   | 0     | 3                     | 35†   | Two spots quite large. |
| 19, 9 a. m.           | 0          | 0     | 0                                    | 0     | 0                                   | 0     | 3                     | 35†   | Two spots quite large. |
| 20, 3 p. m.           | 0          | 0     | 0                                    | 0     | 0                                   | 0     | 3                     | 35†   | Two spots quite large. |
| 23, 6 p. m.           | 1          | 2     | 0                                    | 0     | 1                                   | 2     | 4                     | 25†   |                        |
| 24, 9 a. m.           | 1          | 1     | 0                                    | 2     | 1                                   | 1     | 4                     | 25†   |                        |
| 28, 5 p. m.           | 1          | 15†   | 0                                    | 0     | 0                                   | 0     | 5                     | 25†   | Two spots very large.  |
| 29, 8 a. m.           | 0          | 5     | 0                                    | 0     | 0                                   | 0     | 5                     | 30†   | One spot very large.   |
| 30, 8 a. m.           | 0          | 0     | 0                                    | 0     | 0                                   | 0     | 5                     | 30†   | One spot very large.   |

†Approximated. Faculae were seen at the time of every observation.

Mr. H. D. Govey, at North Lewisburg, Ohio, reports: Sun-spots were observed on all clear days during the month. They were most numerous at the beginning and close of the month; largest and most active on the 28th; and smallest on the 12th.

Mr. David Trowbridge, at Waterburg, New York, reports: 2d, three groups, six spots; one group has appeared by rotation. 4th, four groups, thirteen spots. 6th, three groups, fifteen spots; one group has gone out since the 4th. 7th, three groups (same as 6th), twelve spots. 8th, two groups, six spots; one group has disappeared by rotation. 9th, three groups, eight spots; one faint spot surrounded with faculae has just appeared by rotation. 12th, two groups, six spots; all faint. 14th, three groups, five spots; one group has disappeared by rotation. 15th, one group, three spots; one group has disappeared by rotation, and one near the centre has gone out. 16th, one group, three spots; atmosphere hazy. 17th, two groups, nine spots. 19th, two groups, five spots; somewhat cloudy. 24th, three groups, four spots; one group has just appeared by rotation. 25th, four groups, eleven spots; one group has disappeared by rotation, and one has appeared by rotation; faculae in the west. 26th, four groups, seven spots; somewhat cloudy. 27th, three groups, six spots; faculae in the west. 30th, four groups, ten spots; one large group; faculae in the east.

Captain John Carroll, of the s. s. "Hevelius," reports: 5th, in N. 28°, W. 19°, observed a large spot on sun's disk, and 6th, in N. 31°, W. 17°, the same spot was observed.

The following record of observations has been forwarded by Mr. A. S. Bender, of Sacramento, California:

| DATE—<br>Sept., 1882. | No. of new |       | Disappeared<br>by rotation |       | Reappeared<br>by rotation. |       | Total No. of |       | Remarks.   |
|-----------------------|------------|-------|----------------------------|-------|----------------------------|-------|--------------|-------|--|
|                       | Gr'ps      | Spots | Gr'ps                      | Spots | Gr'ps                      | Spots | Gr'ps        | Spots |  |
| 1, 4 p. m.            | 1          | 5     |                            |       | 1                          | 5     | 4            | 15†   | New spots in group noted yesterday.  |
| 2, 4 p. m.            | 1*         | 15†   | 1                          | 5     |                            |       | 4            | 25†   |  |
| 3, 4 p. m.            |            |       | 1                          | 5     |                            |       | 3            | 30†   | New spots in group noted yesterday.  |
| 4, 4 p. m.            | 1          | 25†   |                            |       |                            |       | 4            | 60†   | Spots increased in size diminished in number. Many spots becoming dim.                 |
| 5, 4 p. m.            |            |       |                            |       |                            |       | 4            | 45†   |  |
| 9, 4 p. m.            |            |       | 1                          | 15    |                            |       | 3            | 35†   | Spots becoming dim and some disappeared.   |
| 12, 4 p. m.           | 1          | 20†   | 1                          | 10    | 1                          | 1     | 3            | 45†   |  |
| 13, 4 p. m.           |            |       | 1                          | 10    | 0                          | 20    | 3            | 35†   | Some spots very dim, some disappeared.   |
| 14, 4 p. m.           | 1          | 1     |                            |       |                            |       | 4            | 30†   |  |
| 15, 4 p. m.           |            |       |                            |       |                            |       |              |       | Cloudy, raining 1 day.   |
| 16, 4 p. m.           |            |       |                            |       |                            |       |              |       |  |
| 17, 4 p. m.           |            |       |                            |       |                            |       |              |       | Two groups suddenly appear.  |
| 18, 4 p. m.           |            |       | 2                          | 10    |                            |       | 3            | 30†   |  |
| 19, 4 p. m.           |            |       |                            |       |                            |       | 2            | 15†   | One group disappeared by rotation.   |
| 20, 4 p. m.           |            |       |                            |       |                            |       | 2            | 10†   |  |
| 21, 4 p. m.           | 1          | 1     |                            |       |                            |       | 3            | 10†   | Spots changed; larger and fewer.   |
| 22, 4 p. m.           |            |       |                            |       |                            |       |              |       |  |
| 23, 4 p. m.           | 1          | 1     |                            |       |                            |       | 4            | 20†   | One group disappeared not by rotation.   |
| 24, 4 p. m.           |            |       |                            |       |                            |       |              |       |  |
| 25, 4 p. m.           |            |       | 1                          | 10    | 1                          | 1     | 5            | 25†   | Some spots quite dim.  |
|                       |            |       |                            |       |                            |       | 6            | 25†   |  |
|                       |            |       |                            |       |                            |       |              |       | Two groups disappeared not by rotation. Three come in by rotation, but not reappeared. |
|                       |            |       |                            |       |                            |       |              |       |  |
| 26, 4 p. m.           |            |       |                            |       | 0                          | 5     | 6            | 40†   | One group growing dim. Spots increased in number in one group, diminished in another.  |
| 27, 4 p. m.           |            |       |                            |       |                            |       | 6            | 40†   |  |
| 28, 4 p. m.           |            |       | 1                          | 6     |                            |       | 5            | 35†   | Some spots very dim.   |
| 29, 4 p. m.           |            |       |                            |       |                            |       | 5            | 30†   |  |
| 30, 4 p. m.           |            |       |                            |       |                            |       | 5            | 25†   | Some spots very dim; much change in form of spots.                                     |
|                       |            |       |                            |       |                            |       |              |       |  |

† Estimated. \* Perhaps reappeared.

#### METEORS.

Springfield, Massachusetts, 30th: A very brilliant meteor was observed at 7:00 p. m., in the west-southwestern sky at an altitude of 50°. Its course was downward and inclined slightly toward the south, and about 10° in length. It was apparently about three-fourths the size of the moon and of a bright whitish color. During its flight (of five seconds duration), the color changed and size diminished until it disappeared, when it resembled a small star of dull red color. This meteor was probably the same which was observed at Poughkeepsie, at about 7:00 p. m., where it is reported to have been brilliant, and about the size of a six-pound cannon ball.

Montgomery, Alabama, 6th: A meteor of considerable brilliancy was observed at 8:10 p. m., at an altitude of 30°. It had the appearance of an ordinary rocket, leaving a trail and bursting into fragments of purple and red colors. Its course was westerly and downward for about 15°. From the following reports it would seem that this meteor was observed at Mobile and Fort Barrancas on this date:

Mobile, 6th: A very large meteor, of cylindrical shape, was observed at 8:00 p. m. It produced a bright light of bluish tint; and pursued a downward course from a point in the northeastern sky.

Fort Barrancas, Florida, 6th: At 7:45 p. m., a brilliant meteor, of light blue color was observed, passing from west to east.

Fort Sisseton, Dakota, 10th: At 7:15 p. m., a meteor of great brilliancy and of an elongated spiral form, made its appearance in the southeastern sky, moving with great velocity and burst almost directly over this post. It left a tail which was visible and apparently stationary for fully fifteen minutes; finally disappearing in the northwest. Its color was of an intense golden hue.

Swanwick, Illinois, 24th: A brilliant meteor was observed in the northwestern sky. It moved southwestward and burst into two pieces at an altitude of 12° or 15°.

Lebanon, Pennsylvania, 8th: During a heavy thunder-storm this evening, a meteor weighing one pound and eleven ounces, fell in the centre of the principal street, appearing like a ball of fire.

Meteors were also reported to have been observed at the following stations:

Kittyhawk, North Carolina, 13th.  
Tobacco Garden, Dakota, 1st.  
Campo, California, 2d, 3d, 6th, 9th, 15th.  
Fort Meade, Dakota, 10th.  
Wicklow, Dakota, 1st.  
Charleston, Illinois, 4th, 5th, 18th.  
Vevay, Indiana, 18th, 25th.  
Indianola, Iowa, 14th.  
Humboldt, Iowa, 14th, 18th.  
Monticello, Iowa, 16th, 30th.  
Russell, Kansas, 2d, 13th.  
Fort Scott, Kansas, 13th.  
Somerset, Massachusetts, 8th.  
Rowe, Massachusetts, 5th.  
Fayette, Mississippi, 4th, 20th, 23d to 25th.  
Corning, Missouri, 13th.  
Clinton, Missouri, 24th, 25th, 26th.  
Clear Creek, Nebraska, 1st, 13th, 17th.  
Readington, New Jersey, 29th.  
Waterburgh, New York, 1st.  
Weldon, North Carolina, 21st.  
Murfreesborough, Tennessee, 3d, 19th.  
Wytheville, Virginia, 17th.

#### EARTHQUAKES.

Panama, 13th: The state of Panama principally, and the adjoining states in Columbia, and in Costa Rica and Nicaragua, have been subjected since the 7th to a series of earthquakes. In Panama the first was felt at 3:20 a. m. of the 7th, which was followed, about half an hour later, by a second one. Both of these shocks were felt at Colon, and generally throughout the state; also Carthagena, in the state of Bolivar; Rivas, Nicaragua, (about eighteen miles from the Pacific,) and at Greytown, the Atlantic port of the San Juan river, which is about one hundred and fifty miles from the before-mentioned town. The shocks caused great alarm in Panama. The walls of more than sixty houses were more or less damaged. The high crown of the pediment of the cathedral fell and hurled about two hundred tons of masonry work, decorative architecture, and a few statues down through the roof into the cathedral square. The offices of the Inter-Oceanic Canal Company were damaged to the extent of \$50,000. The city of Aspinwall suffered in a similar manner, but the damage was not so great. It will will probable cost \$250,000 to repair the damage done in Panama. No buildings fell in the city but the inhabitants fearing to expose themselves to the risk of being crushed by falling masonry, moved outside of the city and resided in the cane and palm leaf houses. In a few places the soil show the effects of the shock, and cracks from one to six inches are visible. The cable from Aspinwall to Jamaica was broken by the first shock about fifty miles from the isthmus. Mr. R. K. Gray, F. R. G. S. and chief of the cable expedition now here, is of the opinion that the center of the earthquake was near Aspinwall, and that the wave travelled from north to south.

The earthquake shock of the morning of the 27th, was felt at various points in Missouri, Illinois and Indiana. At Saint Louis, the shock was felt at 4:05 a. m. The vibratory motion was from west to east and lasted about five seconds. It was attended by a rumbling noise, resembling that heard when standing over a tunnel during the passage of a train. In the southern part of the city the shock was sufficiently severe to frighten persons from their houses.

At Springfield, Illinois, the shock was felt at 4:45 a. m. and sufficient to awaken persons. It was followed by five distinct tremors. The motion was from west-southwest to east-northeast.

Centralia, Illinois: At 4:30 a. m., a well-defined shock of earthquake was felt lasting several seconds. It seemed to come from the west and was accompanied by rumbling sounds. It shook houses very perceptibly, and awakened many persons.

Vincennes, Indiana: A shock of earthquake was felt here at 3:00 a. m. and lasted three minutes.

Swanwick, Illinois: Earthquake shock about 4:00 a. m. Persons were awakened by its vibrations and the rattling of windows, etc. It was observed that the windows in the west ends of houses ceased rattling before those in the east ends, indicating that the vibration was from west to east. The shock was also felt at Cutler, Coulterville, Marissa, Sparta, Pinkneyville and Bunker Hill, Illinois, and Mount Vernon, Indiana.

Greenfield, Illinois: A shock of earthquake was felt in this city at 4:30 a. m. It was preceded by a low rumbling sound, apparently approaching from the east, which was followed immediately by the shock. Buildings were shaken and windows, crockery, etc., rattled. In one building a chimney was badly cracked.

Salem, Illinois: A heavy earthquake shock was felt here about 4:00 a. m. Windows were shaken and people aroused from sleep. A crack in the wall of the National Bank building was considerably widened. A report from Washington, Indiana, states that the shock at that place rang the church bells.

Lebanon, Illinois: Earthquake shock felt at 4:30 a. m., which shook the buildings perceptibly. Pictures and other wall ornaments were swung to and fro.

Shelbyville, Illinois: A heavy shock of an earthquake was distinctly felt at 4:30 a. m., shaking doors and windows, and frightening inhabitants.

Flora, Illinois: Severe shock of earthquake felt at 4:30 a. m., lasting nearly five seconds; most of the inhabitants were awakened by the shock.

Alton, Illinois: A severe shock of earthquake felt at 4:15 a. m. There were two distinct shocks, causing windows and doors to rattle. The shock caused considerable alarm.

Vandalia, Illinois: A shock, supposed to be that of an earthquake, was felt at 4:30 a. m., lasting about five seconds. The noise preceding the shock resembled that of an approaching storm, and was heard fully three minutes before the shock was felt. Houses were shaken and people awakened.

Collinsville, Illinois: The most severe earthquake shock that has been experienced here for twenty years was felt at 4:20 a. m. There seemed to be a series of undulations, continuing for at least half a minute, waking nearly all of the inhabitants, and of sufficient force to overturn bottles, etc.

Pana, Illinois: At 4:30 a. m., several distinct earthquake shocks were felt in rapid succession, following which was a deep rumbling sound.

Belleville, Illinois: A strong earthquake shock was felt at 4:20 a. m., arousing people from sleep, and displacing light articles upon shelves and tables. The shock was preceded by a peculiar rumbling or grating sound.

Nashville, Illinois: A shock of earthquake was distinctly felt here between 4:00 and 5:00 a. m.

Campo, California, 30th: A sharp shock of earthquake was felt at this place at 10:57 a. m., lasting about two seconds. The direction of motion was from southeast to northwest.

#### WATERSPOUTS.

Cape May, New Jersey, 6th: A waterspout was observed at 12:00 m., about six miles northwest of this station. It was apparently about one hundred and fifty feet high, and moved in a northwesterly direction with great rapidity. It was observed for about five minutes.

Charleston, South Carolina, 3d: A waterspout was observed at James' Island, about two miles off the bar. It was preceded by a disturbance of the water, which became more and more agitated until a column was formed, which met the cloud. The large column of water whirled rapidly and moved southward for about a mile, when the cloud and water separated.

#### SAND STORMS.

Fort Cummings, New Mexico, 15th.  
Camp Thomas, Arizona, 3d, 26th.  
Los Angeles, California, 16th.  
Umatilla, Oregon, 14th, 26th, 27th.  
Fort Benton, Montana, 9th, 11th.

#### POLAR BANDS.

Portland, Maine, 17th.  
Gardiner, Maine, 2d, 17th, 24th.  
Auburn, New Hampshire, 10th, 12th, 20th.  
Freehold, New Jersey, 24th.  
Vineland, New Jersey, 17th, 19th.  
Wytheville, Virginia, 4th, 13th.  
Nashville, Tennessee, 4th.  
Riley, Illinois, 27th.  
Guttenburg, Iowa, 30th.  
Yates Centre, Kansas, 5th.  
Pretty Prairie, Kansas, 5th.

#### ZODIACAL LIGHT.

Havana, Cuba, 3d, 4th, 11th, 14th, 15th, 17th to 25th.  
Palestine, Texas, 3d, 9th, 11th, 22d, 24th.  
Nashville, Tennessee, 30th.  
Monticello, Iowa, 2d, 11th, 12th.  
Cambridge, Massachusetts, 19th.  
Clear Creek, Nebraska, 3d, faint.

#### PRAIRIE AND FOREST FIRES.

Tobacco Garden, Dakota: Prairie fires raged in this vicinity from the 4th to 9th and from the 12th to 15th. On the 8th, three hundred and fifty tons of hay were destroyed and on the 13th the fires threatened the safety of this place, causing the observer to take steps to save the instruments and office records.

Fort Yates, Dakota, 6th, 7th and 8th: On the latter date, crops and dwellings were greatly endangered. On the 15th, the fires were very destructive about twenty-five miles west of station. The high wind which prevailed at the time caused the fire to jump all of the ordinary fire "guards" and "breaks." Houses, crops, stock, etc., were destroyed, and the lives of the inhabitants were endangered. On the 16th, the fires were very destructive south of station. Large quantities of stacked hay and grain were burned and many persons narrowly escaped with their lives. On the 17th, the town was completely enveloped with smoke from the late fires.

Deer Lodge, Montana, 1st, fires are burning in mountains near station.

North Platte, Nebraska, 15th, 16th, 17th: During the fire of the 15th, two men were seriously burned.

Russell, Kansas, 12th, 14th: Causing great damage to young forestry.

San Francisco, 1st: Reports from Portland, Oregon, state that forest fires are raging in surrounding localities, and that much wood and many farm houses have been burned.

Lincoln, Nebraska, 19th: A vast prairie fire is raging in the western part of the state, on the divide or table-land between the Platte and Republican rivers, the fires have proved very disastrous to hay and grass.

Less extensive prairie and forest fires have been reported as follows:

Deadwood, Dakota, 15th, 16th, 17th.  
Huron, Dakota, 3d, 4th, 6th, 13th to 17th.  
Cheyenne, Wyoming, 5th, 11th.  
Fort Assiniboine, Montana, 10th, 12th, 13th, 14th.  
Salina, Kansas, 22d.  
Fort Union, New Mexico, 30th.  
Fort Benton, Montana, 14th.  
Helena, Montana, 1st, 3d.  
Lewiston, Idaho, 1st.  
Spokane Falls, Washington territory, 3d, 5th.  
Campo, California, 5th, fires in mountains.  
Fort Lapwai, Idaho, 2d, 3d.  
Creswell, Kansas, 13th, 17th.

Yates Centre, Kansas, 12th.  
Terry's Landing, Montana, 8th, 10th.  
Fort Keogh, Montana, 9th, 10th.

## DROUGHT.

Nora Springs, Iowa, 30th: The ground is very dry; pasture suffering for rain, and fall plowing interfered with.

Fort Scott, Kansas, 15th: The ground is becoming very dry; wells and streams are low; late crops are injured, and the ground is too dry for seeding wheat. 30th: The recent rains have revived vegetation; farmers are sowing grain.

Fort Riley, Kansas, 30th: The month has been very dry; the total rainfall for the month has been only 0.64 inch.

Lawrence, Kansas, 18th: The drought which has prevailed for the past seven weeks, during which time less than 0.10 inch of rain fell, was broken by the copious showers of this date. The corn crop has not been seriously damaged.

Holton, Kansas, 30th: The month has been very hot and dry, and the late planted corn and garden vegetables have suffered in consequence. Very little rain has fallen since July.

Creswell, Kansas, 13th: The weather is the driest that has been experienced at this place during the past eleven years.

Yates Centre, Kansas, 30th: The dry weather of the month has injured the corn crop to some extent in this part of the state.

Dana, Iowa, 30th: Only 0.50 inch of rain has fallen during the past two months.

Westborough, Massachusetts: The drought continued until the 11th; it had prevailed since May 21st, one hundred and fourteen days.

Northfield, Minnesota, 30th: The ground is so dry that no plowing can be done.

Thornville, Michigan, 30th: The lately sowed wheat has not come up well, owing to the dry condition of the soil.

Clear Creek, Nebraska, 15th: The corn crop is drying up. 27th: Rain of this date has ended the drought, which has prevailed for fifty-nine days. The corn crop has been materially injured.

Meadville, Pennsylvania, 17th: The weather is very dry; wells and brooks have dried up, and water is being hauled for domestic purposes.

Fort Benton, Montana, 4th: Many farmers in this vicinity have abandoned their grain crops, the long-continued drought having ruined them.

Leavenworth, Kansas, 13th, weather very hot and dry; rain is badly needed, the late garden vegetables are almost ruined, many persons are compelled to haul water from the river for domestic purposes. 18th, light rain began at 7.55 p. m., which greatly benefited suffering vegetation.

Charleston, Illinois, 14th, very dry and dusty, rain much needed; 29th, rain ends drought.

Guttenburg, Iowa, 30th, the ground is so dry that very little wheat has been sown.

Fort Madison, Iowa, 30th, weather very dry, interfering with the sowing of fall wheat.

## MIGRATION OF BIRDS.

*Geese flying south:* Point Judith, Rhode Island, 28th; Fort Stevenson, Dakota, 25th; Huron, Dakota, 29th, 30th; Alexandria, Dakota, 18th, 21st, 22d; Clear Creek, Nebraska, 19th; Genoa, Nebraska, 9th; Sacramento, California, 6th; Portland, Oregon, 20th, 22d; Umatilla, Oregon, flying northwest, 15th; Tobacco Garden, Dakota, 29th. *Ducks flying south:* Portsmouth, North Carolina, 24th; Olivet, Dakota, 12th; Northfield, Minnesota, 9th; New River Inlet, North Carolina, first appearance of ducks, 28th. *Pelicans flying south:* Keokuk, Iowa, 14th; Clear Creek, Nebraska, 18th. *Cranes flying south:* Tobacco Garden, Dakota, 29th.

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Brig. & Bvt. Maj. Gen'l,  
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